IN THE CLAIMS:

Claim 1 (currently amended): Configuration for [[the]] acquisition and/or monitoring of medical data from a tissue portion of a person or animal, in particular [[the]] a state of [[the]] a cardiovascular and pulmonary system, blood values or blood composition, ~~characterized by~~ the configuration comprising at least one measuring sensor for the acquisition of the medical data and means for locating the measuring sensor adjacent the tissue portion, ~~such as the state of the cardiovascular system, etc. of a person~~ the measuring sensor comprising at least one light source which can emit light at least at two wavelengths, ~~as well as~~ at least one light receiver for determining the light transmitted and/or reflected ~~through a~~ through the tissue portion ~~of a person or an animal further comprising~~ and increasing means for increasing the optical Signal-to-Noise ~~in order to increase the opt1cal Signalto-Noise~~ and/or Signal-to-Background ratio for the measuring sensor, the light source comprising at least two LEDs and the increasing means comprising two beam shaping elements for directing light emitted by the two LEDs directly from the LEDs and directly to the tissue portion, the light receiver being a photo detecting element.

Claims 2-4 (canceled).

Claim 5 (currently amended): Configuration for [[the]] acquisition and/or monitoring of medical data from a tissue portion of a person or animal, in particular [[the]] a state of [[the]] a cardiovascular and pulmonary system, blood values or blood composition, ~~characterized by~~ the configuration comprising at least one measuring sensor for the acquisition of the medical data and means for locating the measuring sensor adjacent the

tissue portion, ~~such as the state of the cardiovascular system, etc. of a person~~ the measuring sensor comprising at least one light source which can emit light at least at two wavelengths, ~~as well as~~ at least one light receiver for determining the light transmitted and/or reflected through [[a]] the tissue portion ~~of a person or an animal~~ and at least one ~~light tray and/or~~ optical wavelength filter for optically wavelength filtering light from the at least one light source to the at least one light receiver.

Claim 6 (previously presented): Configuration according to claim 5, characterized in that the optical wavelength filter is an optical double band pass filter.

Claim 7 (currently amended): Configuration according to claim 5, characterized in that the light receiver has such a limited detection sensitivity that the two ~~frequencies~~ wavelengths of the light source are within the sensitivity area of the receiver.

Claim 8 (currently amended): Configuration according to claim 1, ~~characterized in that~~ including at least a wavelength filter and/or a light trap ~~, such as geometrical baffles, are adapted to suppress,~~ for suppressing by geometric and/or optical means, [[the]] parasitic contribution of environmental radiation in order to increase and stabilize [[the]] signal/background ratio versus environmental conditions.

Claim 9 (canceled).

Claim 10 (currently amended): Configuration according to claim [[1]] 5, comprising light source amplitude modulating or light source modulating means to shift the frequency of the emitted light.

Claim 11 (original): Configuration according to claim 10, comprising a light source amplitude modulating means to modulate the frequency of the emitted light. in a frequency range substantially outside of frequency of noise and/or environmental signals.

Claim 12 (previously presented): Configuration according to claim 10, comprising means for light source amplitude modulation or light source modulating means to shift the frequency of the emitted light in a range where environmental disturbances are substantially neglectable.

Claim 13 (previously presented): Configuration according to claim 10, comprising means for light source amplitude modulating or light source modulating means to shift the frequency of the emitted light in a range of above 120 Hz, preferably above 500 Hz.

Claim 14 (currently amended): Configuration according to claim ~~1, comprising~~ 5, wherein the means for locating comprise mechanical fixing means for arranging the configuration the tissue portion ~~at a human or animal tissue as e.g. at an earlobe of an ear~~, the means guaranteeing that the beam path between the light emitter and the light receiver is always co-linear with the optical axis of the light emitter and the light receiver.

Claim 15 (original): Configuration according to claim 14, wherein the means for fixing include a rigid frame with two U- or V-like arranged arms, where in the area of the one arm end the photo detector is arranged, and at the area of the other arm end a clamping mechanism within the LED is arranged screwably connected to the clamping mechanism, so that the distance between the light receiver and the light transmitter can be varied in such a way that the beam path between the light emitter and light receiver always is co-linear with the optical axis of the light emitter and light receiver.

Claim 16 (original): Configuration according to claim 15, wherein the arm of the frame wearing the clamp mechanism with the light emitter is removably attached to the frame, the connection between the frame and the removable arm being a snap-like mechanism to ensure that the removable arm is fixed to the frame in a constant, predetermined manner.

Claim 17 (currently amended): Configuration according to claim 5, wherein the measuring sensor is a pulsoximetric sensor. ~~Pulsoximetric sensor, including a configuration according to claim 1.~~

Claim 18 (currently amended): Method for measuring and/or monitoring of medical data, in particular the state of the cardiovascular and pulmonary system, blood values or blood composition, ~~etc., characterized in that within~~ comprising providing a pulsoximetric sensor ~~from~~ having at least one light source comprising at least two LEDs from which ~~,~~ ~~such as an LED,~~ at least at two wavelengths, light is emitted, the light [[is]] being

transmitted and/or reflected through a tissue portion of a person or an animal and [[is]] being received by at least one light receiver for determining the light transmitted and/or reflected through the tissue portion, the light from the light ~~emitting~~ source, ~~such as the LED or the LEDs, *is*~~ being directed by using beam shaping elements, ~~such as e.g. diffractive or refractive beam shaping elements~~ directly from the LEDs, through the beam shaping elements and into the ~~human~~ tissue and the light receiver being a photo detecting element.

Claim 19 (currently amended): Method for measuring and/or monitoring or medical data, in particular the state of the cardiovascular and pulmonary system, blood values or blood composition, ~~etc., characterized in that within~~ comprising providing a pulsoximetric sensor [[from]] having at least one light source from which ~~such as an LED,~~ at least at two wavelengths, light is emitted, the light [[is]] being transmitted and/or reflected through a tissue portion of a person or an animal and [[is]] being received by at least one light receiver for determining the light transmitted and/or reflected through the tissue portion, the light from the light emitting source ~~, such as the LED or the LEDs, is~~ being directed through ~~a light tray and/or~~ an optical wavelength filter in the form of ~~, wavelength filter preferably is~~ an optical double band pass filter adapted to the power spectrum of the band limited light source ~~sources such as LEDs~~.

Claim 20 (Previously presented): Method for measuring and/or monitoring of medical data, in particular the state of the cardiovascular and pulmonary system, blood values or blood composition, etc., characterized in that within a pulsoximetric sensor from

at least one light source, such as an LED, at least at two wavelengths, light is emitted, the light is transmitted and/or ref1ected through a tissue portion of a person or an animal and *is* received by at least one light receiver for determining the light transmitted and/or reflected through the tissue portion, the at least one light source is pulsed operated with a phase shifting or modulation of the frequency, so that the frequency of the emitted light is in a range substantially outside of the frequency of noise and/or environmental signals, the pulsed light with the mentioned frequency is received by the, at least one, light receiver after passing through the tissue portion and finally a reversed phase shifting or modulation is executed to calculate the real values of the pulsoximetric measurement.

Claims 20-21 (canceled).